CASE REPORT

True aneurysm of the radial artery: a case report
*Aneurisma verdadeiro da artéria radial: relato de caso*

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**Abstract**

Aneurysms of the radial artery are rare and often associated with penetrating trauma. A case of true aneurysm of the radial artery distal segment is described, with emphasis on its extremely rare clinical presentation. Aneurysmectomy with ligation of the proximal and distal arterial stumps was performed with success.

**Keywords:** Aneurysm; radial artery, aneurysm.

**Introduction**

An aneurysm is a local and permanent artery dilatation with 50% greater diameter than the normal artery. It is generally classified according to location, cause and morphology. As to the cause, it may be traumatic or non-traumatic. Non-traumatic causes of peripheral arterial aneurysms include fungal infections, atherosclerosis, inflammatory and idiopathic\(^1-4\). Non-traumatic true aneurysms of the upper limbs are relatively rare\(^1\).

This paper describes the case of a true radial artery aneurysm, its clinical presentation and diagnostic imaging methods used.

**Case report**

A 47-year-old white female patient presented with a tumor on the right wrist for six months that arose spontaneously, without pain or other clinical manifestation. She had no history of trauma, infection or puncture in the region. Physical examination revealed a pulsatile tumor on the path of the right radial artery, with approximately 1.2 cm in diameter. Doppler ultrasonography of the right radial artery, arteriography of the right upper limb and magnetic resonance imaging (MRI) of the skull were performed.

Doppler ultrasonography showed aneurysmal dilatation in the right radial artery measuring 1.1 x 1.0 cm in diameter, with echogenic images 0.56 x 0.38 cm on the posterior wall and 0.74 x 0.29 cm on the inferior wall suggesting thrombi. Arteriography showed an image compatible with aneurysm thrombus on the distal segment of the right radial artery (Figure 1). Cranial MRI did not show abnormalities. The initial diagnosis of right radial artery aneurysm was confirmed, and the hypothesis of true radial artery aneurysm was defined based on the patient’s clinical history.

She was then submitted to surgical aneurysmectomy with ligation of the proximal and distal stumps of the right radial artery without intercurrences. Anatomopathological examination showed true artery aneurysm with mural thrombosis on the right radial artery.

The patient has been followed for three years with satisfactory outcome, that is, without signs of other aneurysms.

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Discussion

The radial artery aneurysm is rare and usually results from penetrating trauma. The radial artery is commonly affected on its distal segment, which is more superficial. True aneurysms are frequently associated with non-penetrating trauma such as contusions. False aneurysms result from arterial wall penetrating trauma with hematoma formation. Histological examination shows organized thrombus and a fibrous wall that does not contain elements usually found in arterial walls. There is no evidence of muscle or elastic fibers in the arterial wall as compared to true aneurysms.

The rare cases of aneurysms described in the literature are related to puncture or catheterization and associated with diseases such as neurofibromatosis (NF), severe anemia and Buerger’s disease.

In this article, we presented a case of idiopathic radial aneurysm, that had the features of being asymptomatic and the patient had no past history of penetrating trauma or any other associated disease. The relevance of this case is its rarity. After the diagnosis was confirmed by Doppler ultrasound and arteriography, the patient was surgically treated with aneurysmectomy without arterial reconstruction.

References